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Via Electronic Submission

December 3, 2010

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Notice of Oral *Ex Parte* Communication
PS Docket No. 06-229**

Dear Ms. Dortch:

This letter is to inform you that on December 2, 2010, Layer 2 Connections, LLC ("Layer 2 Connections") representatives Marcus Le Maitre, Principal, and I met in person in Boulder, Colorado with FCC Public Safety and Homeland Security Bureau (PSHSB) representatives Deputy Bureau Chief Jennifer Manner, Chief System Engineer Behzad Ghaffari, and Chief Radio Frequency Engineer Pat Amodio.

Layer 2 Connections discussed its understanding of the need for reliable and resilient communications for first responders with the FCC, and supports Chief Barnett's recommendationsⁱ for roaming between the future 700 MHz Public Safety network and commercial wireless networks:

"...the public safety network must be able to expand its capacity to deal with extreme circumstances. For that reason, the FCC recommended that public safety be able to roam over to commercial networks with priority access..."

Layer 2 Connections described how the quality and quantity of wireless data bandwidth available to public safety users can be significantly enhanced by allowing them to simultaneously connect to one or multiple 3rd party networks in addition to the 700 MHz Public Safety Broadband network.

(continued)

Layer 2 Connections provided the following observations of current requirements and recommendations for policy consideration by the PSHSB.

1. Inter-system Roaming

- a. *Observation:* It is Layer 2 Connections' understanding that current inter-system roaming recommendationsⁱⁱ will deliver an either/or capability to public safety users. As users roam from the national 700 MHz Public Safety Broadband network to a commercial network and vice versa, they will use *either* the national public safety network for access *or* the commercial network.
- b. *Recommendation:* We recommended that public safety users will also benefit significantly from being able to use the national 700 MHz Public Safety Broadband network and one or multiple commercial networks simultaneously. The ability to deliver demanding services (such as video) over multiple networks simultaneously can be better achieved with the increased bandwidth derived from the aggregation of each individual network's bandwidth and greater resilience can be delivered through the diversity of network path(s) available.

2. Inter-RAT Requirement Definition

- a. *Observation:* It is Layer 2 Connections' understanding that current inter-Radio Access Technology (inter-RAT) roaming requirementsⁱⁱⁱ do not yet specifically define the use of network performance metrics to improve the quality of roaming between LTE and non-LTE networks.
- b. *Recommendation:* We discussed that user quality of experience can be significantly enhanced for mobile users if key performance metrics such as available bandwidth, latency, jitter, and packet loss are used in the determination of 1) when to handoff and roam between network connections, and 2) when to aggregate multiple network connections.

Layer 2 Connections recommended that "seamless handoff" and network aggregation capabilities – informed by the real-time metrics described above – are in the public interest of supporting first responder safety and productivity. As an example, these capabilities support improved situational awareness and resilient, constant data sessions of real-time protocols like VoIP and video across *multiple* networks.

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We requested that the FCC PSHSB consider our recommendations for both inter-system roaming and inter-RAT roaming requirement definition.

Layer 2 Connections is a small, woman-owned business based in North Carolina that represents a software-based technology which creates virtual wide area networks; our principals have extensive experience serving the public safety community with voice and data communications. At this meeting we introduced virtual wide area networks (VWANs)^{iv} and the meeting included a brief demonstration of a VWAN technology.

If you have any questions or comments regarding this notice, please do not hesitate to contact me.

Sincerely,



Pascal de Hesselle
Principal
Layer 2 Connections, LLC

CC: Jennifer Manner, FCC PSHSB Deputy Bureau Chief
Behzad Ghaffari, FCC PSHSB Chief System Engineer
Pat Amodio, FCC PSHSB Chief Radio Frequency Engineer
Susan Nelson, Layer 2 Connections, Managing Principal
Marcus Le Maitre, Layer 2 Connections, Principal

ⁱ Statement of James Arden Barnett, Jr., Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission. "Keeping Us Safe: The Need for a Nationwide Public Safety Network." Presented before the U.S. Senate Committee on Commerce, Science, and Transportation. September 23, 2010.

ⁱⁱ "NPSTC 700 MHz Public Safety Broadband Task Force Report and Recommendations." Chair, David Buchanan. September 4, 2009. Pages 26, 33-36 60-61.

ⁱⁱⁱ See reference ii.

^{iv} VWAN Definition: "A virtual wide area network (VWAN) shapes WAN architectures so that multiple WANs behave like a single network." Source: www.vwan.com.

